

CLAIMS

1. A surface discharge processing method of generating an electric discharge between an electrode and a workpiece and thereby forming a surface reforming layer on the surface
5 of said workpiece,

wherein said electrode is a wire electrode composed of a core wire made of ductile material, and a surface discharge processing material made of a surface reforming material adhered to said core wire or a raw material for
10 the surface reforming material.

2. The surface discharge processing method according to claim 1, wherein a recess is formed in said core wire, and said surface discharge processing material is adhered to
15 this recess.

3. The surface discharge processing method according to claim 2, wherein the recess formed in said core wire is spiral in shape.
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4. The surface discharge processing method according to claim 1, wherein a processing program for performing the surface discharge processing is the processing program for wire discharge processing employed in a preparatory step
25 of surface discharge processing.

5. / A surface discharge processing method of generating an electric discharge between an electrode and a workpiece thereby forming a surface reforming layer on the surface of said workpiece,

5 wherein a first wire electrode for removal processing by discharge, and a second wire electrode for surface discharge processing composed of a core wire made of ductile material, and a surface discharge processing material made of a surface reforming material adhered to this core wire
10 or a raw material for the surface reforming material are changed over, and the processing is done by combination of removal processing of said workpiece, and surface discharge processing for reforming the surface of the processed side formed by this removal process.

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6. A surface discharge processing apparatus which generates an electric between an electrode and a workpiece thereby forming a surface reforming layer on the surface of said workpiece, said surface discharge processing
20 apparatus comprising:

a wire electrode as said electrode; and

a wire electrode feeder which feeds said wire electrode to said workpiece during surface discharge processing,

wherein said wire electrode is composed of a core wire
25 made of ductile material, and a surface discharge processing

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material made of a surface reforming material adhered to said core wire or a raw material for the surface reforming material.

5 7. The surface discharge processing apparatus according to claim 6, wherein a recess is formed in said core wire, and said surface discharge processing material is adhered to this recess.

10 8. The surface discharge processing apparatus according to claim 7, wherein the recess formed in said core wire is spiral in shape.

15 9. The surface discharge processing apparatus according to claim 6, wherein the processing program for performing the surface discharge processing is the processing program for wire discharge processing employed in a preparatory step of surface discharge processing.

20 10. A surface discharge processing apparatus which generates an electric discharge between a surface discharge processing electrode and a workpiece thereby forming a surface reforming layer on a surface of said workpiece, said surface discharge processing apparatus comprising:

25 a first wire electrode for removal processing by an

electric discharge;

a second wire electrode for surface discharge processing composed of a core wire made of ductile material, and a surface discharge processing material made of a surface reforming material adhered to said core wire or a raw material for the surface reforming material;

a wire electrode feeder which feeds said first wire electrode and second wire electrode to said workpiece during the processing; and

a wire electrode changeover unit which can select said first wire electrode when removal processing is to be performed or select said second wire electrode when surface discharge processing is to be performed.

11. A surface discharge processing electrode used in surface discharge processing for forming a surface reforming layer on a surface of a workpiece by discharge energy,

wherein said surface discharge processing electrode is a wire electrode composed of a core wire made of ductile material, and a surface discharge processing material made of a surface reforming material adhered to said core wire or a raw material for the surface reforming material.

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